

REMARKS

Claims 1-3, 7-12 and 14-17 have been rejected under 35 U.S.C. 103 (a) as the "obvious" incorporation into the "aqueous polyacrylate gels" of the Hughes patent (U.S. 4,985,062) of the teaching of "the incorporation of zeolytes in an aqueous plant growth medium" disclosed in the Carson patent (GB 2134507).

While conceding that

"the references do not explicitly disclose incorporating zeolyte crystals or the specific plant nutrients of applicants' claims at the claimed ratio of ingredients and application proportions",

and that

"Hughes' polyacrylate gel is not explicitly stated as having a 'ice-crystal-like-appearing' feature",

the Office, none-the-less, maintains this rejection as the "obvious" combination of patent teachings upon the grounds that "incorporation of zeolyte crystals and water-based nutrients would have been fairly suggested to the ordinary artisan from Hughes' teaching of incorporating fertilizer in his polyacrylate gel and Carson's teaching of fertilized-charged zeolyte particles" (page 7).

With respect, however, applicants would call attention to the fundamental Office mistake in misconstruing the Hughes patent teaching to be that "of incorporating fertilizers in his polyacrylate gel". In fact, the Hughes patent teaches the *exact opposite*; namely that the

"acrylic acid... aqueous gel... (should have) the *absence* of plant nutrients, growth promoters and other similar agricultural and horticultural adjuvants." (col. 1, line 21-27);

"*not necessary* to incorporate primary plant nutrients, micronutrients, growth promoters or other agricultural and/or horticultural adjuvants into the gel ... Unexpectedly, it has also been found that aqueous gels including a mixed salt of homopolymerized or copolymerized acrylic acid generate higher crop yields *when fertilizers are excluded from the aqueous gels.*" (col. 1, lines 45-55);

"the inclusion of plant nutrients and inert solid ingredients into gels made from the polymers of the present invention *is unnecessary, and is potentially detrimental.*" (col. 2, lines 2-12);

"most advantageous... if aqueous gels formed from the polymer could be used *without the addition of fertilizers and the like...*" (col. 2, lines 60-63);

"in the *absence* of primary or secondary plant nutrients" (col. 3, lines 12, 13); "in the *absence* of plant nutrients" (col. 4, lines 33, 34); "greater improvement in crop yields when fertilizers and other agricultural or horticultural adjuvants are *absent* from the gel" (col. 4, lines 53-55).

It is submitted, accordingly, that one skilled in the art, or for that matter, anyone else reading the actual teachings of the Hughes patent, would thus hardly, "obviously" or otherwise, be led deliberately to flaunt Hughes' contrary teachings and deliberately use "fertilizers in his polyacrylate gel", whether of Carson's "aqueous plant growth medium" with its "fertilizer-charged zeolyte particles", or applicants' claimed plant nutrient solutions, or any other.

Reconsideration and withdrawal of this Sec. 103(a) ground of rejection are thus believed to be in order and are therefore respectfully requested.

Reconsideration and allowance are further requested, moreover, since the claims contain limitations that further exclude them from any possible reading on the references.

Considering first the method claims, claim 9 expressly provides for

"adding *sufficient* polyacrylate polymer powder to the aqueous plant nutrient solution to create a gel with water-insoluble polyacrylate crystals *entrapped therein*." (See Example 6, line 29; Example 7, line 39; Example 5 and Table 4).

Altogether apart from the above-demonstrated fact that Hughes forbids the use of a "plant nutrient solution", there does not appear to be any disclosure of creating "a gel with water-insoluble polyacrylate crystals entrapped therein". While the Office invites intention to the Hughes patent, column 15, lines 45 - 47 as allegedly showing that "Hughes' polyacrylate gel would *necessarily* possess" entrapped water-insoluble polyacrylate crystals dispersed therein, the non-binding of water to the degree of preventing water being available to the plant, is a non-sequester to the specific entrapping of water -insoluble polyacrylate crystals dispersed through the gel, as claimed.

Claim 10, depending from claim 9, further requires the zeolyte crystals to be "embedded in the gel". While the Carson patent certainly teaches adding zeolyte particles to a liquid or solid growth medium, it doesn't even hint at its embedding in a gel, let alone a polyacrylate gel as claimed--and, of course, Hughes has nothing whatsoever to do with zeolyte. Claim 16 also recites the novelty of "adding polyacrylate polymer powder to the solution to create a gel with zeolyte crystals absorbed therein;" and claim 17, applicants' preferred volume ratio range.

Claims 11-15 depend also from claim 9 and intermediate dependent claim 12, adding still further limitations outside the scope of the references including the gel-spreading feature of claim 11, specific plant and chemical nutrients and the proportions of claim 15.

Turning to the product claims, claim 1 calls for a novel product of a polyacrylate polymer powder gelled in an aqueous plant nutrient solution. As before pointed out, Hughes does not produce any gel in a plant nutrient solution. The claim further requires that within this gel, there are "entrapped water-insoluble polyacrylate crystals dispersed therein". Hughes does not even appear to disclose any gel that entraps water-insoluble polyacrylate crystals. Claim 2 distinguishes in the same manner explained above in connection with claim 10; and claim 15 recites applicants' novel preferred proportions.

While applicants have deleted the phrase "ice-crystal-like- appearing" adjective phrase from the claims, thereby obviating the 35 U.S.C. 112, second paragraph, indefiniteness rejection, this feature which preserves the visual appearance of the plant material through the ice - like translucency of the gel is now presented in newly added dependent claims 39 - 41, omitting the objected-to words "like" and "appearing".

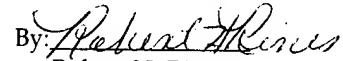
It appears, furthermore, that there are 38, not just 34 claims pending (see filing receipt of 5/11/2001, confirmation number 9742). Applicants affirm their current election of claims 1-17 as ordered by the Office restriction requirement, but while reserving the right to file further division application(s) to the non-elected claims canceled herein.

This application appears to be a true division of serial number 08/901,501, filed July 28, 1997 (now U.S. Patent 6,271,174) which, in turn, was filed as a continuation-in-part of application Serial No. 08/756,264, filed November 25, 1996, (now U.S. Patent 5,900,387). [See above-mentioned USPTO filing receipt: "This application is a division of 08/901,501, 07/28/1997"].

Reconsideration and allowance are therefore respectfully requested; and any and all costs incurred by this filing, including for any required extensions of time, petition for which is hereby made, may be charged to the deposit account, 18 - 1425 of the undersigned attorneys.

Respectfully submitted,

RINES AND RINES

By:   
Robert H. Rines  
Registration No. 15,932

Date: February 2, 2005  
RINES AND RINES  
81 North State Street  
Concord, NH 03301  
Tel: (603) 228-0121